TOC and ROCK-EVAL DATA REPORT

Cimarex

HGS No.	Location	Operator	Well Name	Top Depth (ft)	Bottom Depth (ft)	Median Depth (ft)	Field	Sample Type	Rock-Eval TOC		S1	S2	S3	Tmax (°C)		Calc. %Ro	Meas. %Ro	HI	OI	S2/S3	S1/TOC	PI	Notes Checks	Notes Pyrogram
06-4170-165278	Sec 16-19N-5W	Dome	#1 Navajo Alloted 16	5160	5175	5167.5	Papers Wash	cuttings	0.69		0.37	1.87	0.15	448		0.90		271	22	12	54	0.17	c	n
06-4170-165279	Sec 20-21N-8W	Dome	#1 Santa Fe 20	5590	5608	5599	Snakes Eyes	cuttings	0.53		0.21	1.29	0.16	440		0.76		243	30	8	40	0.14		n
06-4170-165280	Sec 22-19N-5W	Dome	#2 Federal 22-A	5149		5149	Papers Wash	cuttings	0.24		0.16	0.33	0.11	451	*	0.96		138	46	3	67	0.33		n
06-4170-165281	Sec 19-18N-8W	Cimarex	Baltic Place 1-19	4018	4023	4020.5	Wildcat	cuttings	0.21		0.08	0.29	0.09	436	*	0.69		138	43	3	38	0.22		n
06-4170-165282	Sec 19-18N-8W	Cimarex	Baltic Place 1-19	4022		4022	Wildcat	swc	0.04		0.03	0.04	0.05	438	*	0.72		100	125	1	75	0.43		f
06-4170-165283	Sec 19-18N-8W	Cimarex	Baltic Place 1-19	4028		4028	Wildcat	swc	0.59	**	2.28	1.99	0.49	402		0.08		337	83	4	386	0.53	c	lts2p
06-4170-165284	Sec 21-20N-5W	Filon	Federal 21-2	5900		5900	Ojo Encino	core	0.49		0.47	0.64	0.13	446		0.87		131	27	5	96	0.42		n
06-4170-165285	Sec 21-20N-5W	Filon	Federal 21-2	5901.5		5901.5	Ojo Encino	core	0.64	**	1.02	1.47	0.28	446		0.87		230	44	5	159	0.41		n
06-4170-165286	Sec 21-20N-5W	Filon	Federal 21-2	5903.1		5903.1	Ojo Encino	core	0.18		0.19	0.24	0.07	443	*	0.81		133	39	3	106	0.44		n
06-4170-165287	Sec 21-20N-5W	Filon	Federal 21-2	5904.5		5904.5	Ojo Encino	core	0.52		0.34	1.66	0.12	441		0.78		319	23	14	65	0.17		n
06-4170-165288	Sec 21-20N-5W	Filon	Federal 21-2	5905.5		5905.5	Ojo Encino	core	0.18		0.14	0.08	0.08	446	*	0.87		44	44	1	78	0.64	c	n

Note: "-1" indicates not measured or meaningless ratio

* Tmax data not reliable due to poor S2 peak
** Samples appear to be contaminated and/or contain migrated hydrocarbons

TOC = weight percent organic carbon in rock
S1, S2 = mg hydrocarbons per gram of rock
S3 = mg carbon dioxide per gram of rock
Tmax = °C

HI = hydrogen index = S2 x 100 / TOC
OI = oxygen index = S3 x 100 / TOC
S1/TOC = normalized oil content = S1 x 100 / TOC
PI = production index = S1 / (S1+S2)
Calculcated%VRo = 0.0180 x Tmax - 7.16 (Jarvie et al., 2001)
Measured %Ro = measured vitrinite reflectance

Notes:
c = Rock-Eval analysis checked and confirmed
lc = Leco TOC analysis checked and confirmed

Pyrogram:
n=normal
ltS2sh = low temperature S2 shoulder
ltS2p = low temperature S2 peak
htS2p = high temperature S2 peak
f = flat S2 peak
na = printer malfunction pyrogram not available

Geochemical Log

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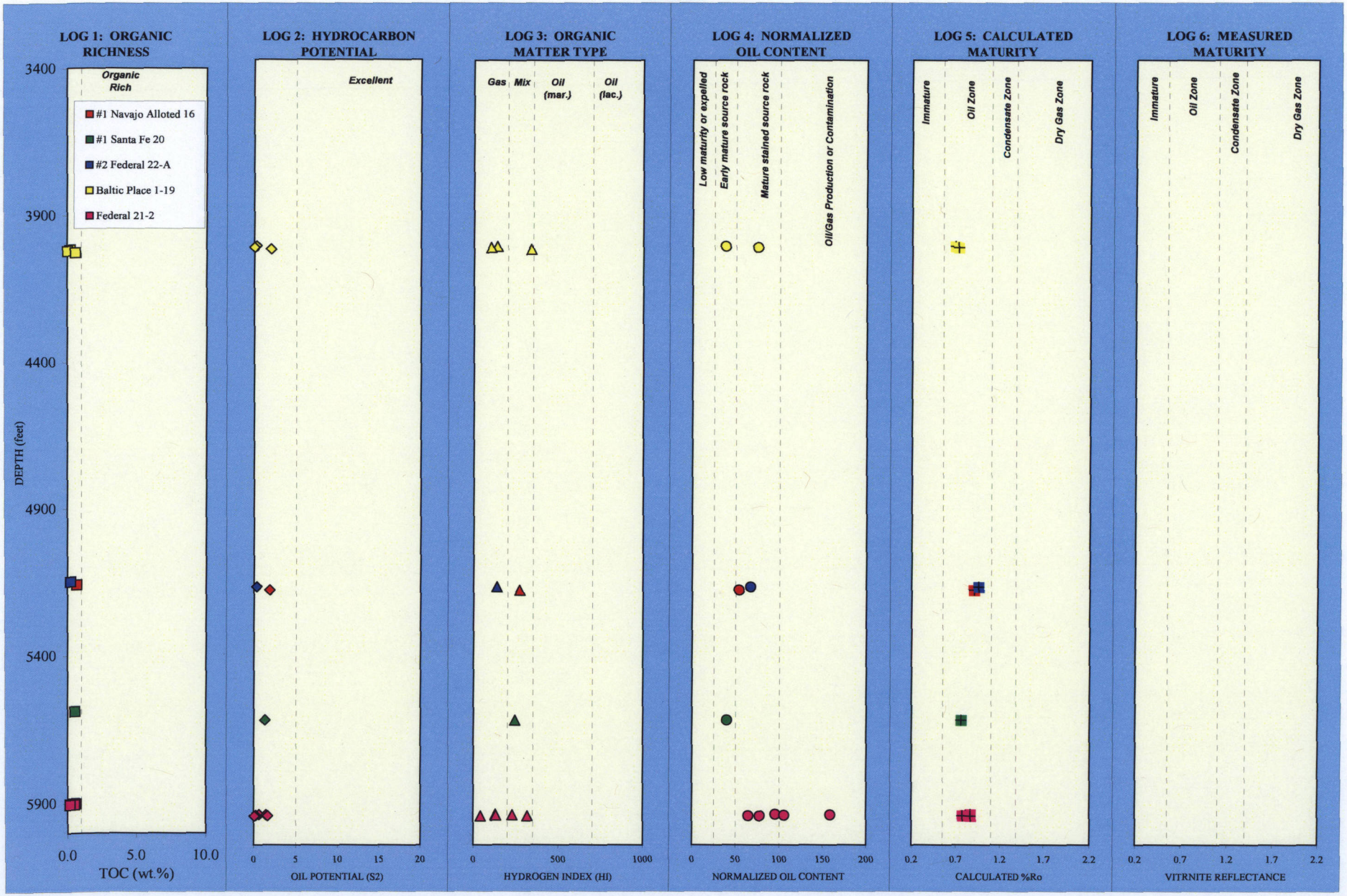

Figure 1. Geochemical log of TOC, remaining potential (S2), kerogen type (HI), normalized oil content, and calculated and measured vitrinite reflectance.

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KEROGEN QUALITY

Cimarex

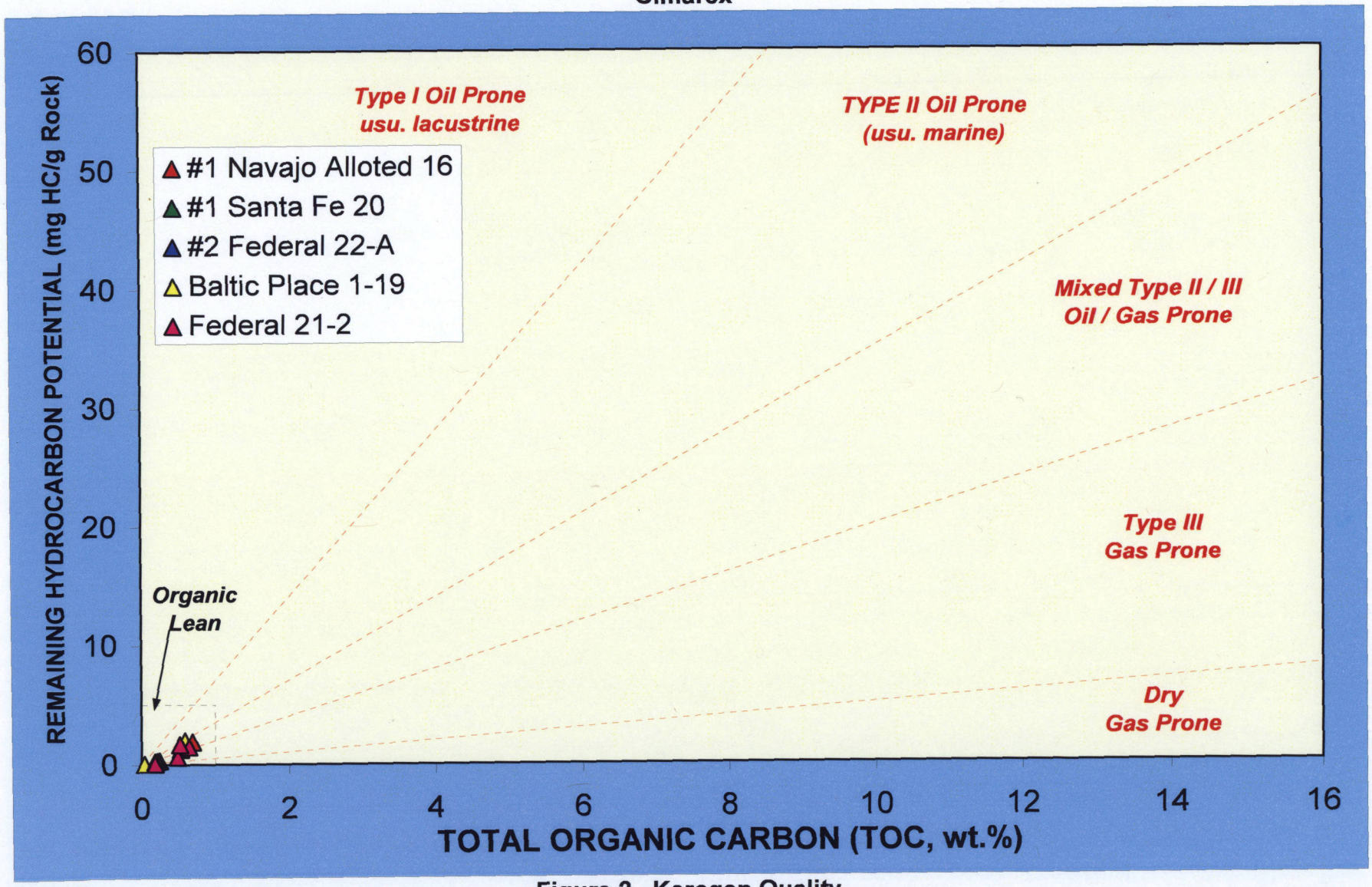
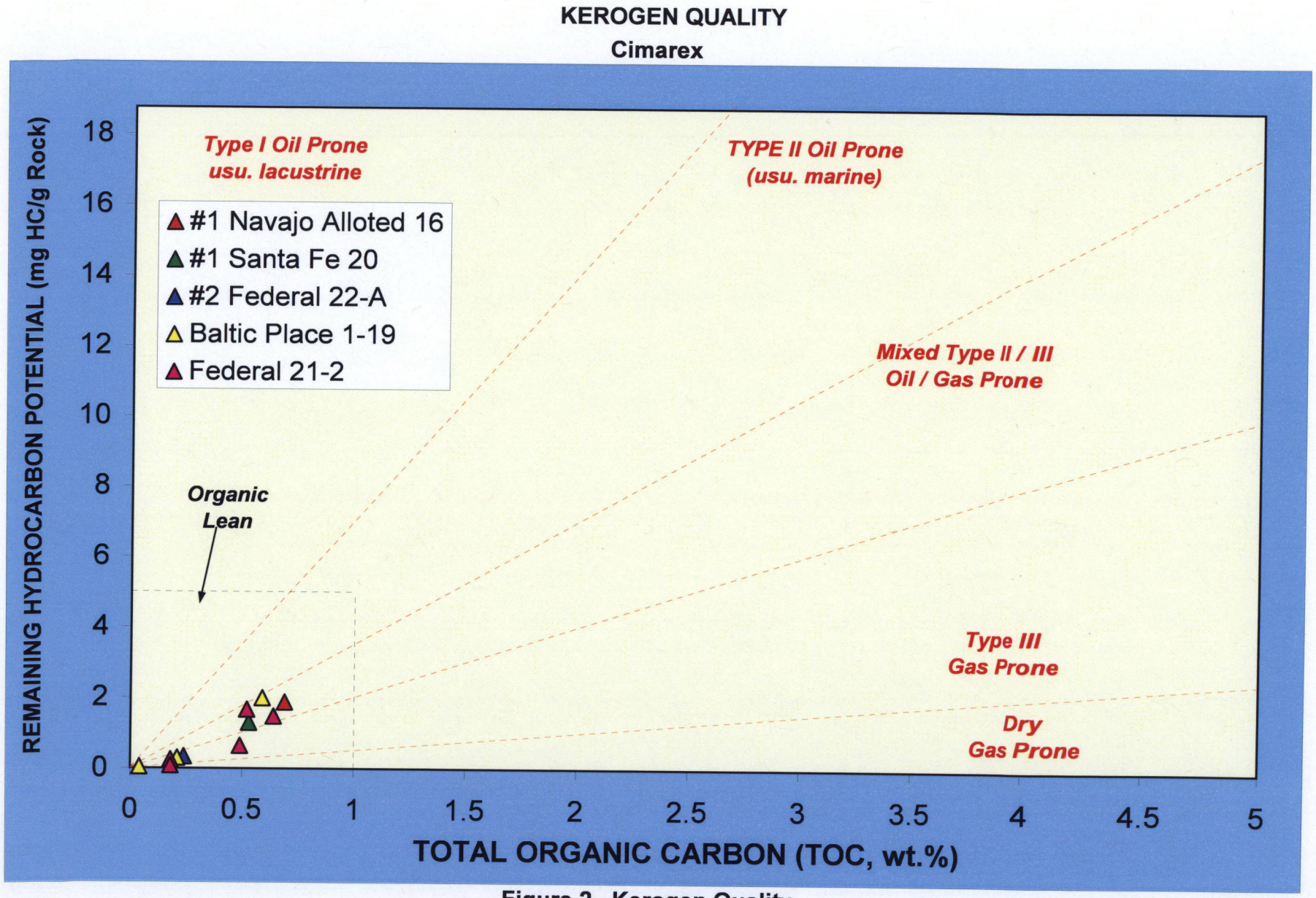


Figure 2. Kerogen Quality



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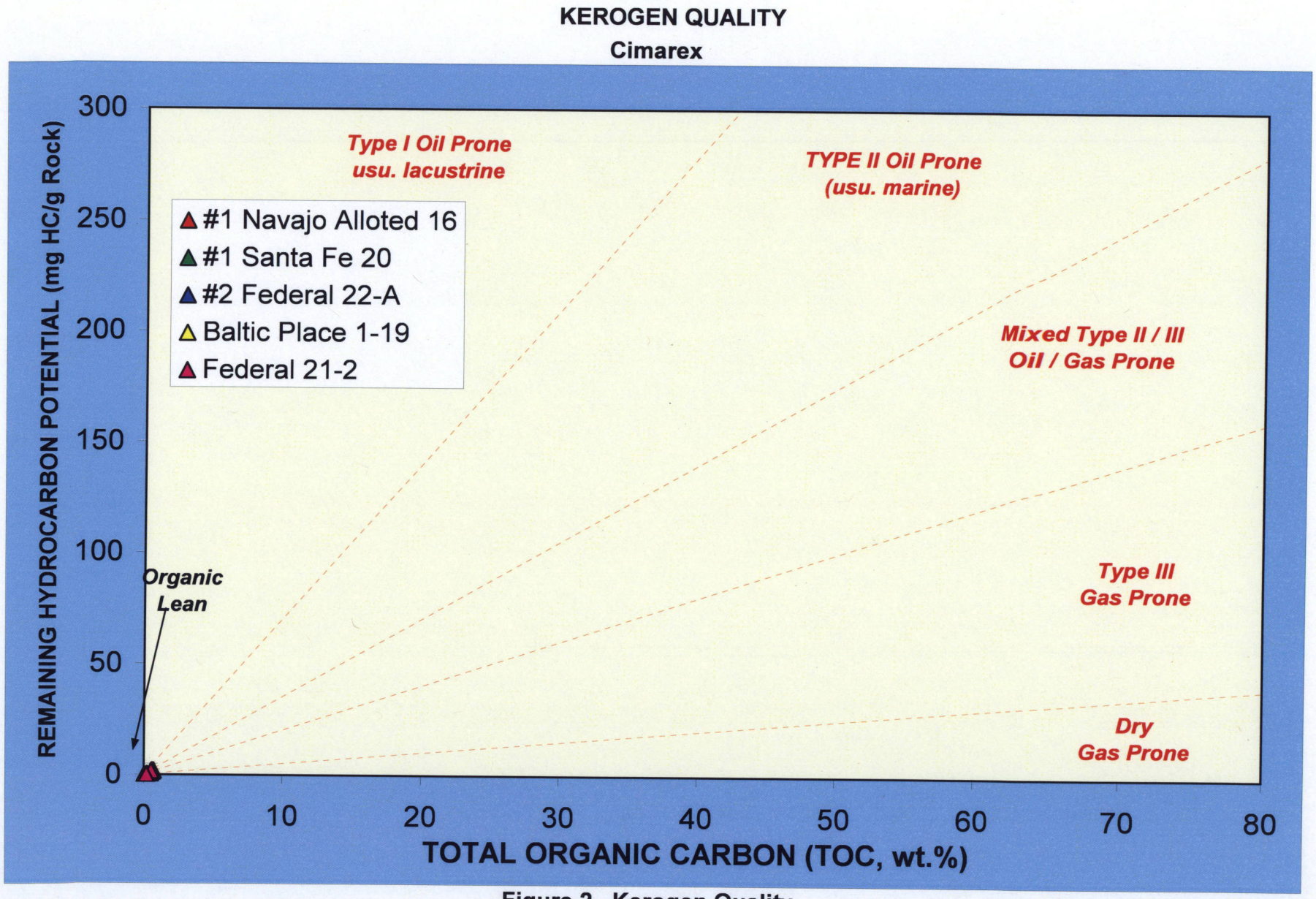

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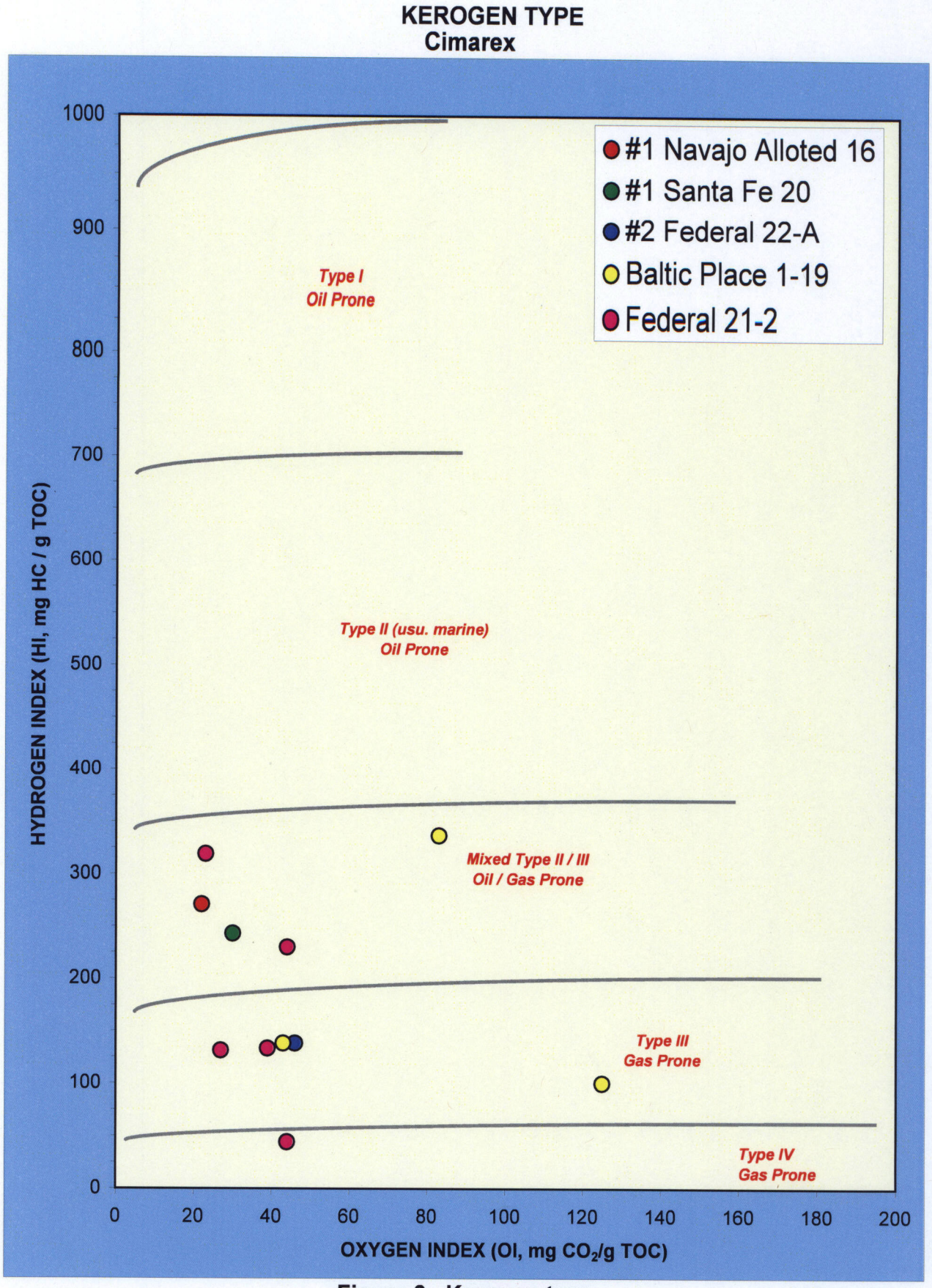

Figure 3. Kerogen type

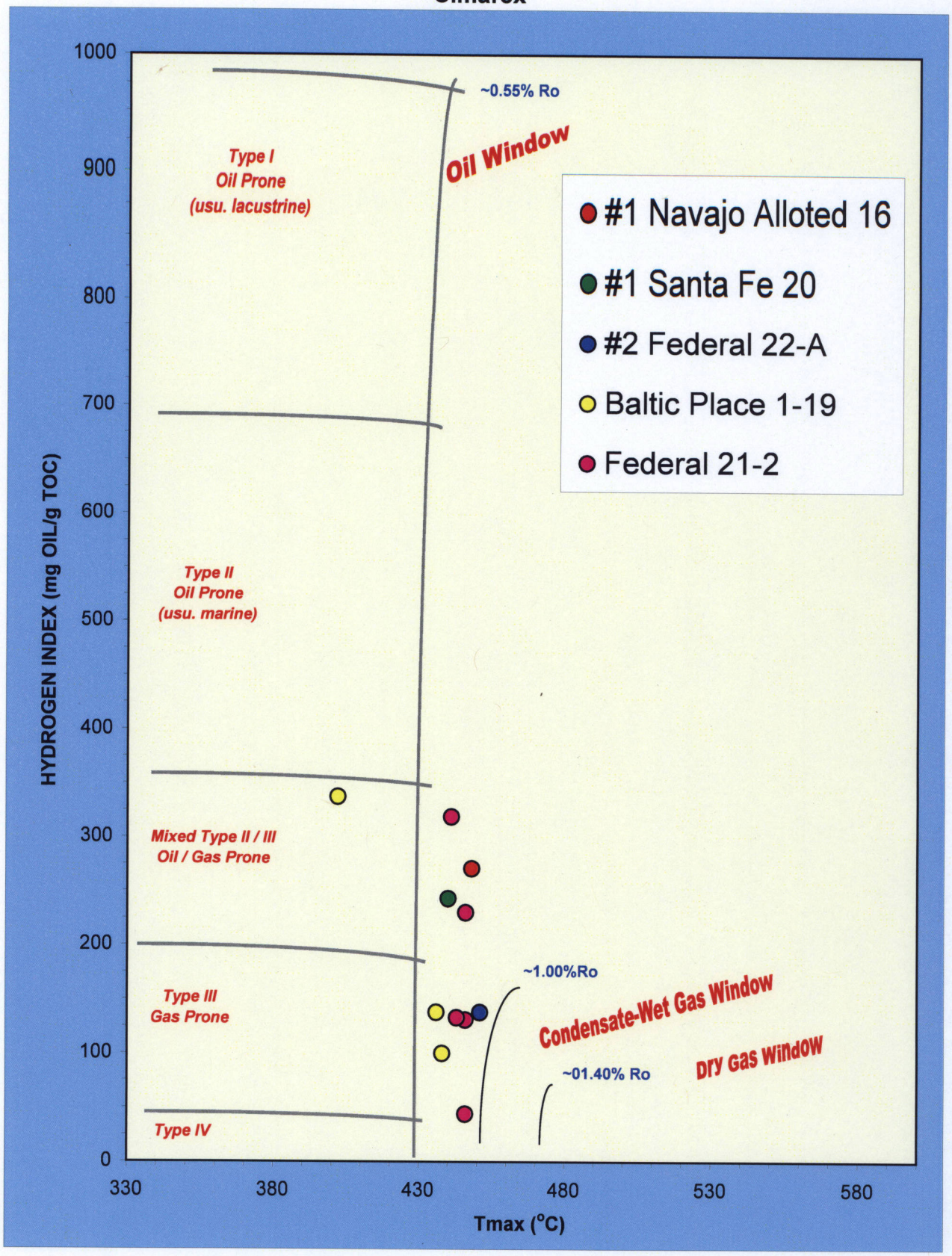

Figure 4a. Kerogen Type and Maturity (Tmax)

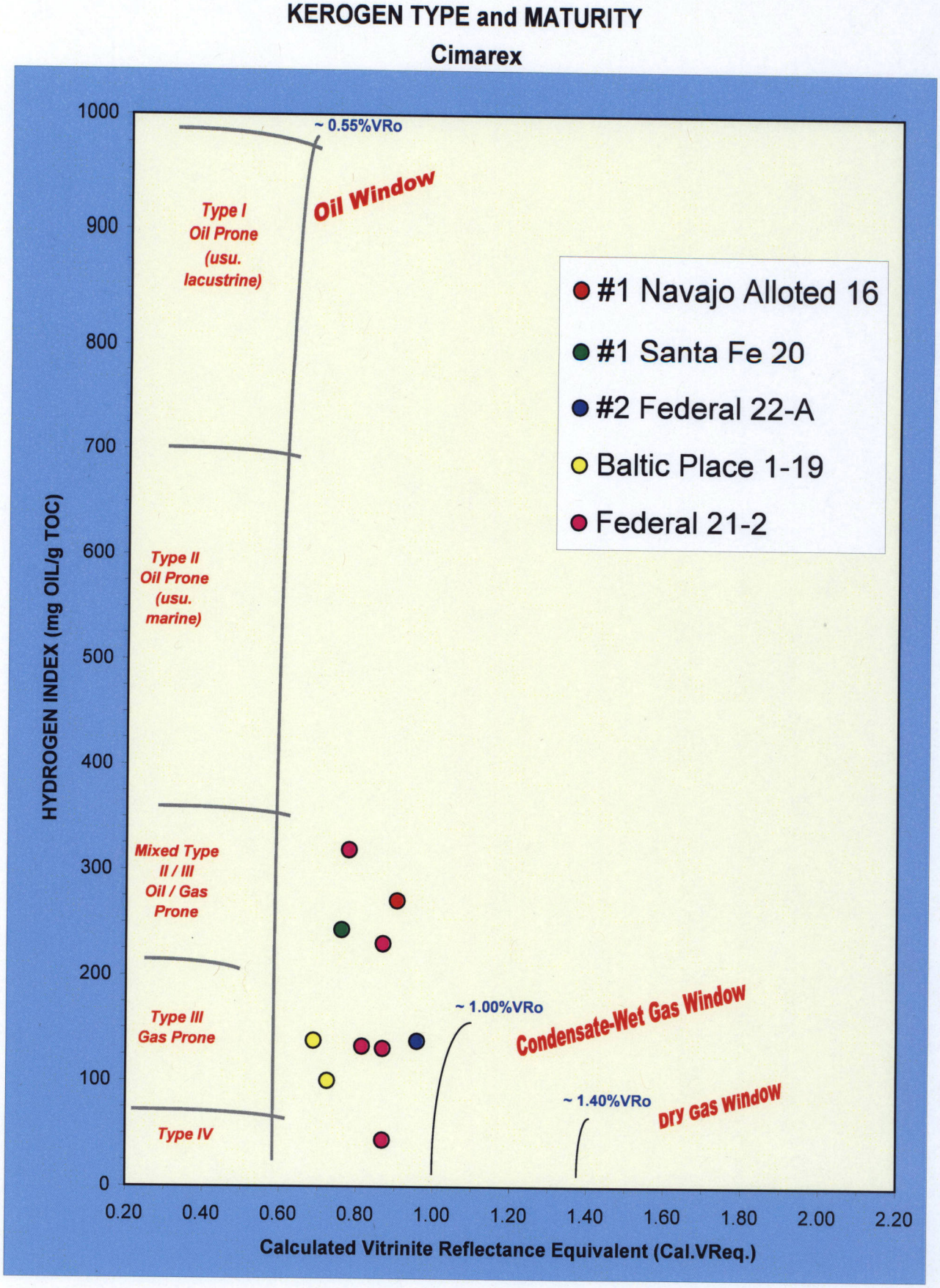

Figure 4b. Kerogen Type and Maturity (Tmax calculated %VRo)

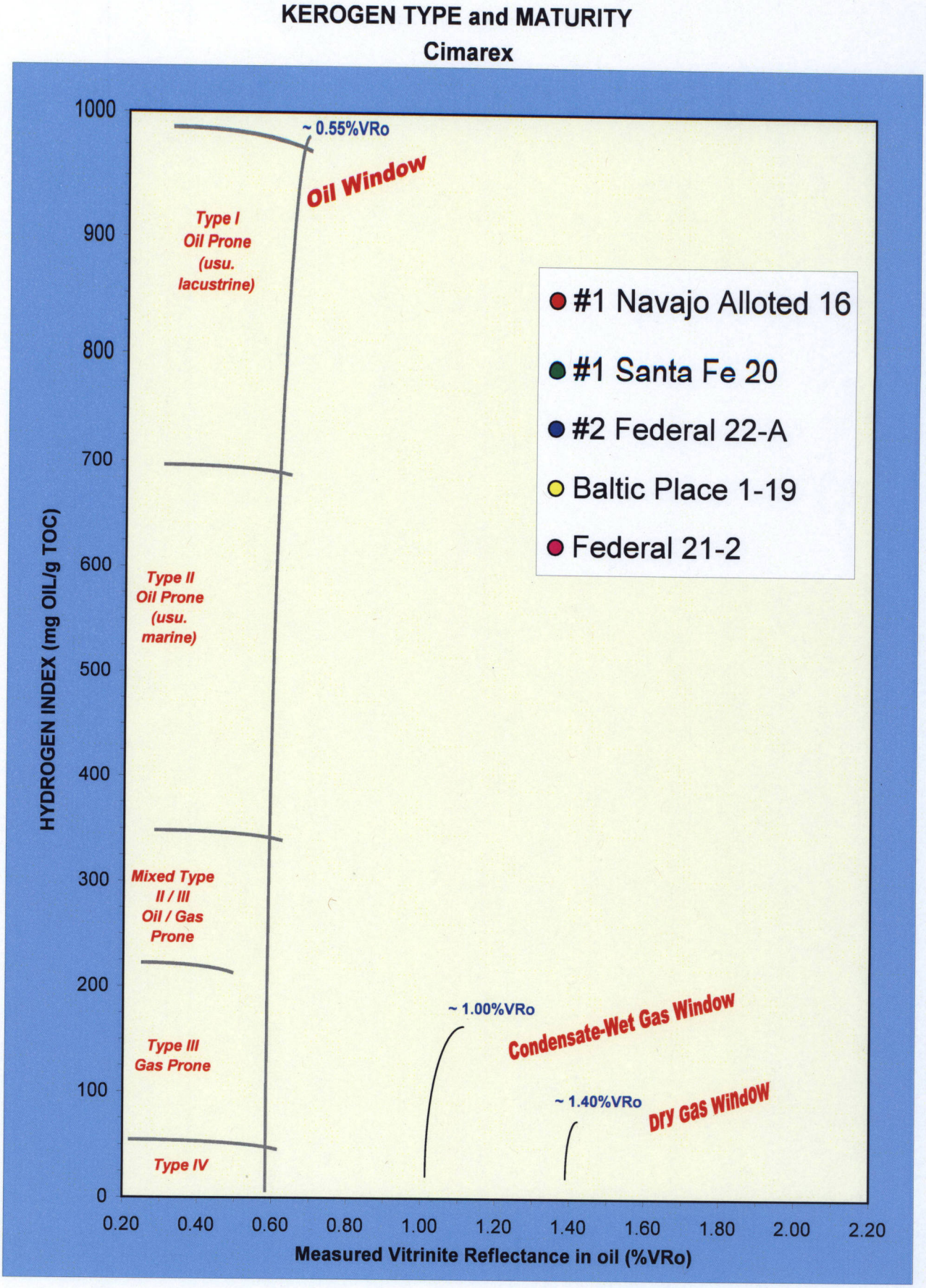

Figure 4c. Kerogen Type and Maturity (Measured vitrinite reflectance)

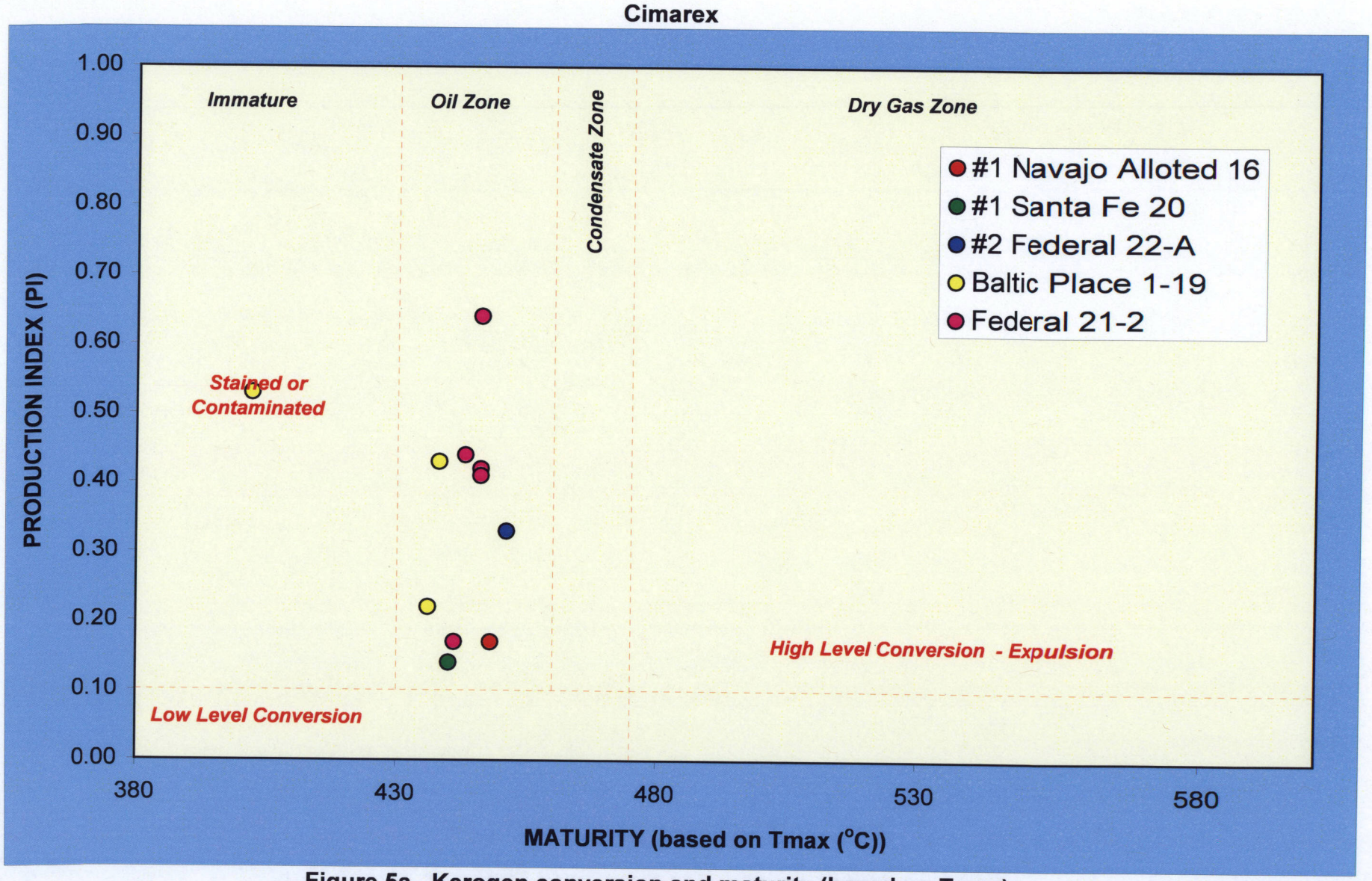

Figure 5a. Kerogen conversion and maturity (based on Tmax).

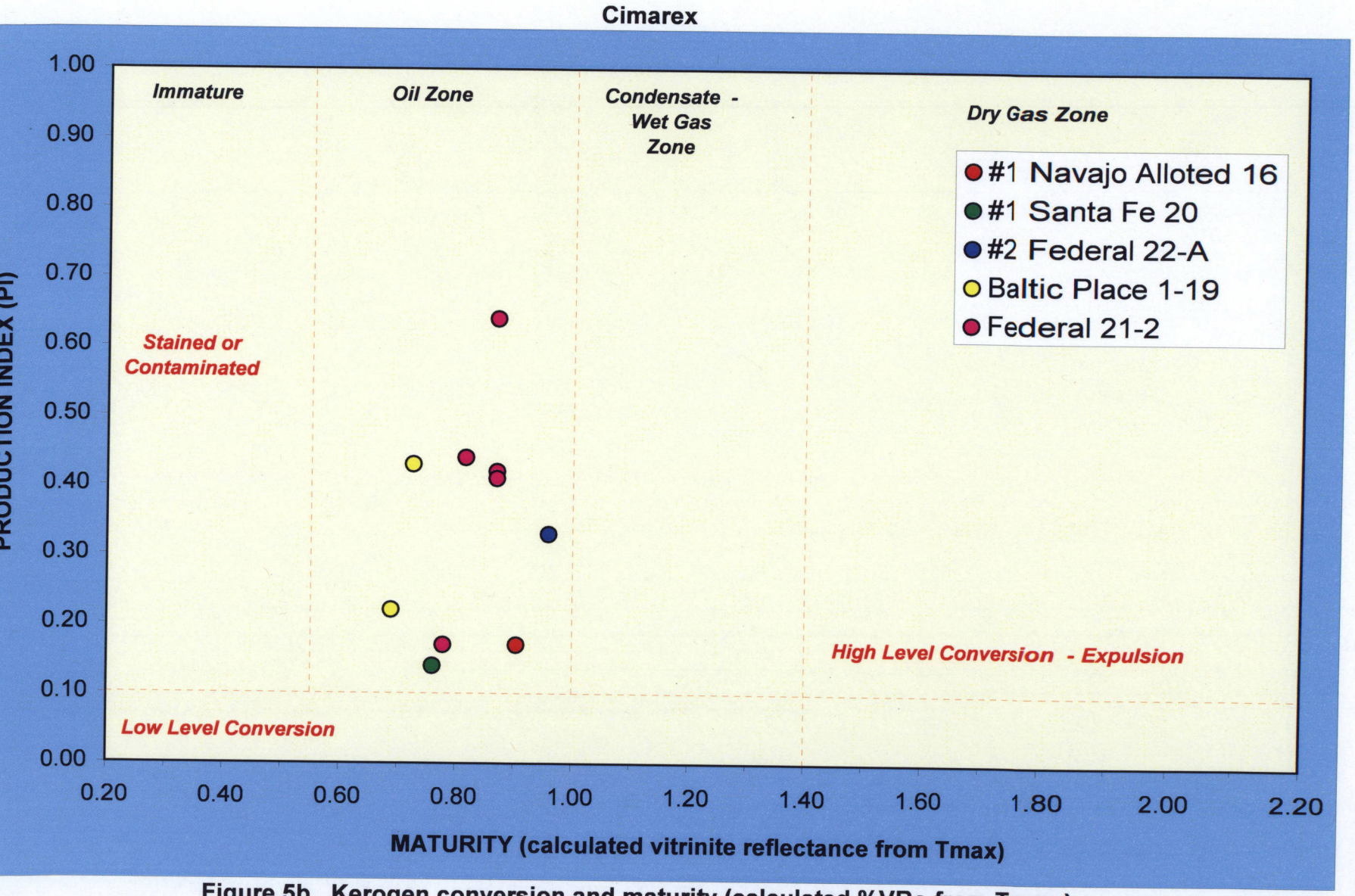

Figure 5b. Kerogen conversion and maturity (calculated %VRo from Tmax).

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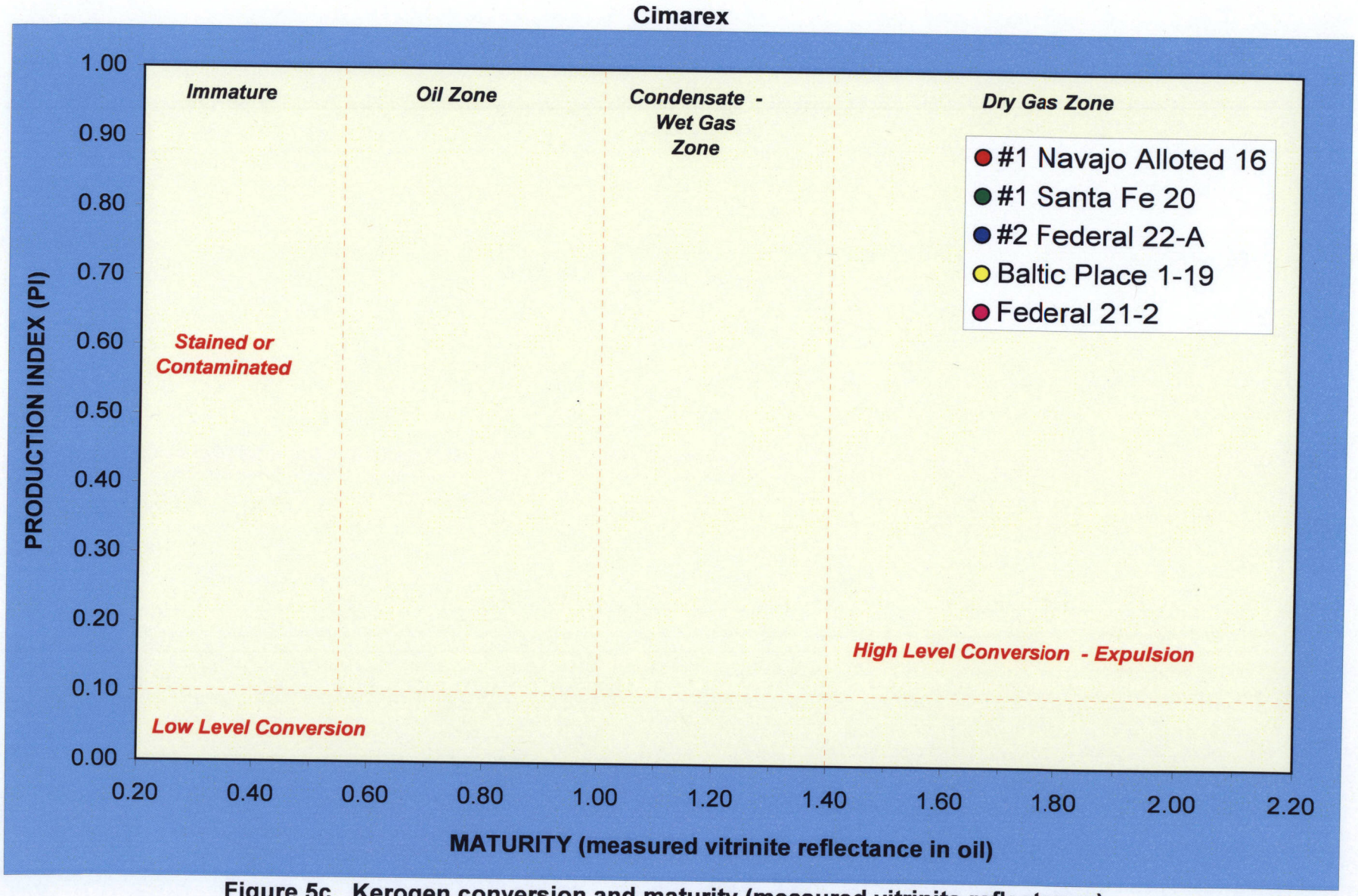

Figure 5c. Kerogen conversion and maturity (measured vitrinite reflectance).